

## **REMARKS**

This Amendment and Reply seeks to place this application in condition for allowance. The specification has been amended to improve grammar and formatting. Several of the claims have been amended to correct inadvertent typographical errors and to improve grammar/clarity. No new matter has been added.

Moreover, all of the objection and rejections raised in the Office Action of September 2, 2003 (hereinafter the "Office Action") have been addressed. Each of the objections and rejections are addressed below in detail and in the order presented in the Office Action.

### **Objection to the Specification**

The instant application has been amended to address the Examiner's concerns regarding the formatting of the application as well as the length of the abstract. In particular, Applicant has incorporated appropriate headings into the application. Applicant has also provided a substitute abstract of the disclosure (attached hereto as a separate sheet). The new abstract of the disclosure more fully complies with 37 CFR 1.72. None of these amendments add or present new matter.

### **Objection to the Claims**

Claims 15 and 23 have been amended to address the Examiner's concern regarding improper multiple dependent claims.

### **Rejection of the Claims under 35 USC § 112, 2nd paragraph**

In the Office Action, claims 16-22 were rejected as being indefinite for failing to particularly point out and distinctly claim the invention. (See, the Office Action, page 3). In

this regard, there was an inadvertent typographical error in the last paragraph of the claim. The amendment to the claims corrects that error. As such, the rejection has been addressed in full. Reconsideration is respectfully requested.

### **Rejection of the Claims under 35 USC §§ 102 and 103**

In the Office Action, all of the claims (except claims 15 and 23) were rejected in view of Schoess (U.S. Patent 6,076,405) alone or in combination with Khalid (U.S. Patent 6,231,306) or what is identified as "Official Notice" (see, for example, page 6). Each rejection is addressed separately below.

#### **§102 Rejection -- Schoess**

Claims 9-11, 24 and 26 were rejected as being anticipated by Schoess. Applicant respectfully disagrees. For at least the reasons set forth below, claims 9-11, 24 and 26 are not anticipated by Schoess.

#### **Schoess**

Schoess describes an acoustic rotor monitor for detection of embedded and hidden fatigue cracks in remotely inaccessible devices such as helicopter rotor system components. (Abstract, lines 1-4; Col. 3, lines 24-32). Schoess employs a sensor which is directly embedded into the rotor system, particularly attached to one of the elements of the rotor system, to measure high frequency stress waves. (Col. 3, lines 28-31 and 35-38; and Col. 5, lines 40-46). According to Schoess, high frequency stress waves are indicative of a structural crack or propagation thereof.

Schoess employs electronics to analyze the high frequency stress waves detected by the sensor (col. 5, lines 25-46). In this regard, the electronics compares measured or

actual acoustic emission data to a library of acoustic emission events in order to detect and identify valid structure event data and classify the event. (Col. 5, lines 51-66 and Figures 8a-8i). Moreover, if the electronics determines that the high frequency acoustic emission data matches or exceeds a threshold, an alarm (in the cockpit of the aircraft) is set. (Col. 6, lines 17-28).

Thus, the Schoess system is based entirely on detecting "cracking structural events [that] occur at very high frequencies (0.2-10 MHz), well out of the operating range of conventional helicopter [ ] noise due to mechanical and aircraft flow effects (DC to 200kHz) ...." (Col. 4, lines 47-50). According to Schoess, "most of fixed and rotary wing aircraft noise spectrum, due to airflow, and mechanical vibration, is limited to 100-200 kHz ...." (Col. 5, lines 38-43).

### **Claimed Invention**

There are many inventions described in the instant application. In an effort to present a more concise response, the discussion below will focus on one of those aspects or features. This is not the only reason the claimed inventions are patentable over Schoess (or Khalid). As such, Applicant's response to this rejection is not exhaustive by any means.

Independent method claim 9, as amended, describes an invention directed to acoustically monitoring a wind power installation that generates electrical power. The method of claim 9 comprises detecting an operating acoustic spectrum generated by at least one of the components during operation of the wind power installation, comparing the operating acoustic spectrum to a reference acoustic spectrum, and detecting whether a deviation between the operating acoustic spectrum and the reference acoustic spectrum exceeds a threshold.

Claim 9, as amended, further includes communicating audible sounds which caused the deviation to a remote monitoring center when the deviation exceeds the threshold. As mentioned in the specification, in this way, the "operating staff [in the remote monitoring center] can listen to the noises in question, in a more sophisticated and subtly differentiated manner, and possibly implement suitable measures." (page 5, lines 21-23).

Notably, the other two independent claims (i.e., claims 16 and 24) include similar limitations. That is, for example, amended claim 24 states "communicating audible sounds that caused the deviations between the first noise spectrum and the first reference noise spectrum to the remote monitoring center."

### **Schoess Does Not Anticipate the Claimed Inventions**

Simply put, Schoess does not teach or suggest a method of acoustically monitoring a wind power installation that includes, among other things, communicating audible sounds that caused the deviations between the recorded/measured noise spectrum and the reference noise spectrum. Moreover, the Schoess system would not motivate one skilled in the art to communicate such sounds because only very high frequency acoustic energy is measured and/or detected -- i.e. acoustic energy having a frequency in the range of 0.2-10 MHz. (Col. 4, lines 47-49). Such acoustic energy is well beyond the audible range of humans.

Indeed, according to Schoess, stress wave acoustic energy analysis is only "a viable tool for detecting potential structural failures and crack growth" because it is based on measuring and analyzing very high frequency acoustic energy -- i.e., (0.2-10 MHz) -- which are "well out of the operating range of conventional helicopter noise due to mechanical and aircraft flow effects (DC to 200kHz)". (Col. 4, lines 47-51). As such, the sensor employed

by Schoess is sensitive to frequencies above at least 50kHz (see, for example, Col. 4, lines 42-44 and Figure 6a) -- which is considerably higher than the audible frequencies of a human/operator.

Thus, in sum, the invention as claimed is not anticipated by Schoess.

### **§103 Rejection -- Schoess alone or in view of Khalid**

Claims 12, 21, 22, 27, 33 and 34 were rejected in view of Schoess alone or in combination with Khalid. For reasons similar to those discussed above, those claims are not obvious in view of Schoess or Khalid, singularly or in combination.

#### **Khalid**

Khalid, to the extent understood, describes a control system for preventing compressor stall in a gas turbine engine. Khalid does not appear to describe any acoustic monitoring techniques. Notably, it seems doubtful that one skilled in the art would consider pertinent to the problem addressed by the present invention.

#### **Schoess, neither alone nor in combination with Khalid, renders the claimed inventions obvious.**

As mentioned above, Schoess neither teaches nor suggests a method of acoustically monitoring a wind power installation -- let alone a method that includes, among other things, communicating audible sounds that caused the deviations between the recorded/measured noise spectrum and the reference noise spectrum.

Khalid provides no assistance in that regard. That is, Khalid does not appear to describe any acoustic monitoring techniques -- let alone those applicable to a wind power installation.

In sum, Schoess, whether alone or in combination with Khalid, does not teach or suggest the claimed methods of acoustically monitoring a wind power installation.<sup>1</sup>

### **Prior Art Made of Record**

Applicant notes the prior art made of record but not relied upon. It is not clear what is meant by the comment that the prior art made of record "is considered pertinent to applicant's disclosure." (See, Office Action, page 8). To the extent such comment is understood, however, Applicant does not agree with the Examiner's comment.

Moreover, no inference or conclusion should be drawn that Applicant agrees, in any way, with the Examiner's characterization of such prior art. In an effort to provide a more concise response and because the Examiner has not rejected any of the claims based on the prior art made of record (but not relied upon), Applicant does not provide comments on the Examiner's characterization.

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<sup>1</sup> As alluded to above, for the sake of brevity, the discussion regarding obviousness focuses on one aspect or feature neither found in nor suggested by the prior art. This is not the only reason the claimed inventions are patentable over Schoess in view of Khalid. Applicant's response to this obviousness rejection is not exhaustive.

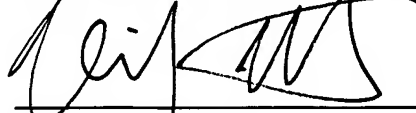
Notably, reliance on what is termed "Official Notice" to reject certain claims is in error and inappropriate. *For example*, the relationship between the second output power level and second threshold (in view of the first power output level and first threshold) cannot simply be dismissed as obvious by stating it is "known to duplicate or multiply components in order to duplicate or multiply their functions." (Office Action, page 7). The use of two output power levels and two corresponding thresholds in the method is not a multiplication or duplication of components. Although Applicant has not rebutted the rejection on this basis, no inference or conclusion should be drawn that Applicant agrees, in any way, with the Examiner's characterization of the claims or the Examiner's use of "Office Notice".

### CONCLUSION

Applicant requests reconsideration of the instant application. Applicant submits that the pending claims present patentable subject matter. Accordingly, allowance of all of the claims is respectfully requested.

Date: January 9, 2003

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Neil A. Steinberg', written over a horizontal line.

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